

REMARKS

Favorable reconsideration is respectfully requested in view of the following remarks. The current status of all of the claims is provided in the above listing of claims. Applicants request that non-elected claims 61-63, 66, 69 and 72 be reinstated for allowance if claim 56 is found allowable. Claims 56, 59-63, 66, 69 and 72 are pending.

Claim rejections - 35 U.S.C. § 102/103

Claims 56, 59 and 60 are rejected under 35 USC 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as obvious over Scott et al. (The Society for Biotechnology, Japan, 55th meeting 2003). Applicants respectfully traverse the rejection.

The rejection appears to contend that the teachings of Scott provide evidence that their probes inherently possess the same sequences as SEQ ID NOS 19-105 as recited in claim 56. However, Applicants submit that the presentation materials of Scott do not appear to provide a description sufficient to enable one to select 87 types of probes that are specific to ITS regions in 17 types of bacteria without cross-hybridization.

In particular, although the internal transcribed spacer (ITS) sequences of bacteria are specific to each type of the bacteria, at the same time, ITS sequences have similarities between the bacteria. The probability of cross-hybridization of a probe from one ITS region to another ITS region is very high, and the corollary is that there would not have been a reasonable expectation of success in obtaining 87 types of probes that are specific to ITS regions in 17 types of bacteria without cross-hybridization.

Scott is silent as to cross-hybridization of their probes. Applicants note that even if Scott indicates that their probes are unique to each type of bacteria, uniqueness is only a minimum requirement for preventing cross-hybridization. That is, even if a probe is unique to a certain ITS region in a certain type of bacteria, the likelihood of that probe cross-hybridizing with another ITS region in another bacteria is very high.

Scott discloses the use of 40mer probes. The number of 40mer probes obtainable from the 17 ITS sequences of bacteria A to Q (SEQ ID NOS: 1 to 17) is over 9,300. Although Scott discloses that their probes have no self-complementarity to produce hairpins and no hits in GenBank, there is no indication that the probes do not cross-hybridize. In fact, Scott does not provide any guidance, let alone experimental data, to show that 87 types of probes that are

specific to ITS regions in 17 types of bacteria without cross-hybridization is even possible.

Thus, Applicants respectfully submit that Scott appears to fail to provide sufficient detail to enable a person of ordinary skill in the art to select 87 probes from over 9,300 possible 40mer probes, where each of the 87 probes can bind specifically to an ITS region of any of the 17 types of bacteria A to Q without occurrence of cross-hybridization as required by claim 56. Accordingly, claim 56 is patentable over Scott for at least the above reasons.

Claims 56, 59 and 60 are rejected under 35 USC 103(a) as being unpatentable over Scott in view of Buck et al. (BioTechnique, 1999, 27, 528-536). Applicants respectfully traverse the rejection.

As discussed above, Scott appears to fail to provide sufficient detail to enable a person of ordinary skill in the art to select 87 probes from over 9,300 possible 40mer probes, where each of the 87 probes can bind specifically to an ITS region of any of the 17 types of bacteria A to Q without occurrence of cross-hybridization as required by claim 56. Buck does not remedy the deficiencies of Scott.

In particular, Buck teaches that every single primer amplifies the target sequence even though they are selected using different criteria (pages 530 and 533). Even accepting arguendo that this teaching, together with the teachings of Scott would provide for all of the possible 40mer probes and probes that detect PCE degrading bacteria with a reasonable expectation of success, the references fail to provide sufficient detail to enable a person of ordinary skill in the art to select 87 probes from over 9,300 possible 40mer probes, where each of the 87 probes can bind specifically to an ITS region of any of the 17 types of bacteria A to Q without occurrence of cross-hybridization as required by claim 56. As indicated above, uniqueness is only a minimum requirement for preventing cross-hybridization. That is, even if a probe is unique to a certain ITS region in a certain type of bacteria, the likelihood of that probe cross-hybridizing with another ITS region in another bacteria is very high. Thus, Scott, even in view of Buck, appears to fail to provide sufficient guidance or detail to enable a person of ordinary skill in the art to select 87 probes that can bind specifically to an ITS region of any of the 17 types of bacteria A to Q without occurrence of cross-hybridization.

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In view of the above, favorable reconsideration in the form of a notice of allowance is requested. Any questions or concerns regarding this communication can be directed to the attorney-of-record, Douglas P. Mueller, Reg. No. 30,300, at (612) 455.3804.

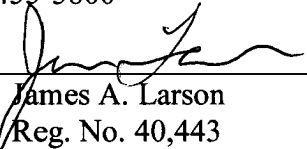


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Respectfully submitted,

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